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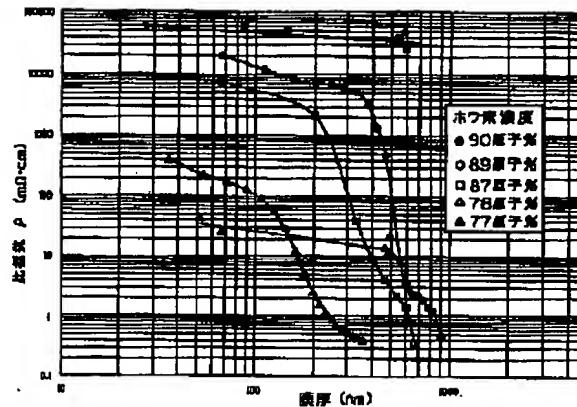
APPLICATION DATE : 29-01-97
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TITLE : RESISTIVE MATERIAL AND RESISTIVE MATERIAL THIN FILM



ABSTRACT : PROBLEM TO BE SOLVED: To enable change of a specific resistance over a broad range simply by changing the thickness with the same composition, and by a simple process in comparison with the case where the composition of a resistive material is changed as in a conventional technique, by preparing an alloy containing a specified quantity of boron and aluminum.

SOLUTION: A resistive material is made of an alloy containing boron and aluminum with the content thereof being 90 atomic weight % exceeding 77 atomic weight %. In the case where this resistive material is used for a resistor or a heating element, it is preferred that the thickness of a thin film of the resistive material is set to 100 to 1000nm. By setting the thickness within this range, a specific resistance ρ can be changed over a broad range and the absolute value of a temperature coefficient of resistance TCR can be made small. Also, in the case where the resistive material is used for a temperature sensor, it is preferred that the thickness of the thin film of the resistive material is set to 50 to 500nm. By setting the thickness within this range, the absolute value of the temperature coefficient of resistance TCR can be made very large and a temperature detection sensitivity can be made high, while a change in the specific resistance ρ can be made small.

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